SEQUENCE LISTING

<110> Advisys
Baylor College of Medicine

<120> SYNTHETIC MUSCLE PROMOTERS WITH ACTIVITIES EXCEEDING NATURALLY OCCURRING REGULATORY SEQUENCES IN CARDIAC CELLS

<130> 108328.00161 - AVSI-0027

<140> 10699597
<141> 2003-10-30

<150> US 60/423,536
<151> 2002-11-04

<160> 22

<170> PatentIn version 3.1

<210> 1
<211> 21
<212> DNA
<213> artificial sequence

<220>
<223> SRE control elements used in the promoters.

<400> 1
gacacccaaa tatggcgacg g 21

<210> 2
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> MEF-1 control element used in the promoters

<400> 2
ccaacacctg ctgcctgcc 19

<210> 3
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> MEF-2 control element used in the promoters.

<400> 3
cgctctaaaa ataactccc 19

<210> 4
<211> 13
<212> DNA
<213> artificial sequence

<220>
<223> TEF-1 control element used in the promoters.

<400> 4
caccattcct cac 13

<210> 5
<211> 335
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence of an eukaryotic promoter c5-12.

<400> 5
cggccgtccg ccttcggcac catcctcacg acacccaaat atggcgacgg gtgaggaatg 60

gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt tggcgctcta 120

aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca aatatggcga 180

cggttcctca cccgtcgcca tatttgggtg tccgccctcg gccggggccg cattcctggg 240

ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg cggcccacga 300

gctacccgga ggagcgggag gcgccaagct ctaga 335

<210> 6
<211> 40
<212> PRT
<213> artificial sequence

<220>
<223> This is the artificial sequence for GHRH (1-40)OH.

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa at position 1 may be tyrosine, or histidine

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa at position 2 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa at position 15 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> Xaa at position 27 may be methionine, or leucine.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa at position 28 may be serine or asparagine.

<400> 6

Xaa Xaa Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Xaa Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Xaa Xaa Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 7
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the HV-GHRH plasmid.

<400> 7
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60

accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120

gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180

tggcgctcta aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca 240

aatatggcga cggttcctca cccgtcgcca tatttgggtg tccgccctcg gccggggccg 300

cattcctggg ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg 360

cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420

ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480

ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct ccccacctcc 540

ccctttgacc ctcaggatgc ggcggcacgt agatgccatc ttcaccaaca gctaccggaa 600

ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg 660

agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720

ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag 780

tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840

tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa 900

cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960

tcactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020

tgggattcca ggcatgcatg accaggctca gctaattttt gtttttttgg tagagacggg 1080

gtttcaccat attggccagg ctggtctcca actcctaatc tcaggtgatc tacccacctt 1140

ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttccct gtccttctga 1200

ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260

cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320

ctcagtagat gcctgttgaa ttcgataccg tcgacctcga ggggggggccc ggtaccagct 1380

tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc 1440

ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt 1500

gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc 1560

ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 1620

ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680

cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca 1740

cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800

accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccccct gacgagcatc 1860

acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg 1920

cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat 1980

acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt 2040

atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc 2100

agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg 2160

acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2220

gtgctacaga gttcttgaag tggtggccta actacggcta cactagaaga acagtatttg 2280

gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340

gcaaacaaac caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca 2400

gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga 2460

actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520

gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580

acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640

agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat 2700

cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct 2760

gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc 2820

gctcgatgcg atgtttcgct tggtggtcga atgggcaggt agccggatca agcgtatgca 2880

gccgccgcat tgcatcagcc atgatggata ctttctcggc aggagcaagg tgagatgaca 2940

ggagatcctg ccccggcact tcgcccaata gcagccagtc ccttcccgct tcagtgacaa 3000

cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060

cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accgggcgcc 3120

cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt 3180

catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttgtt 3240

caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300

agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag 3360

agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420

actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg 3480

gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac 3534

<210> 8
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the TI-GHRH plasmid.

<400> 8
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60

accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120

gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180

tggcgctcta aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca 240

aatatggcga cggttcctca cccgtcgcca tatttgggtg tccgccctcg gccggggccg 300

cattcctggg ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg 360

cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420

ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480

ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct ccccacctcc 540

ccctttgacc ctcaggatgc ggcggtatat cgatgccatc ttcaccaaca gctaccggaa 600

ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg 660

agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720

ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag 780

tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840

tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa 900

cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960

tcactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020

tgggattcca ggcatgcatg accaggctca gctaattttt gtttttttgg tagagacggg 1080

gtttcaccat attggccagg ctggtctcca actcctaatc tcaggtgatc tacccacctt 1140

ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttccct gtccttctga 1200

ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260

cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320

ctcagtagat gcctgttgaa ttcgataccg tcgacctcga ggggggggccc ggtaccagct 1380

tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc 1440

ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt 1500

gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc 1560

ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 1620

ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680

cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca 1740

cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800

accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccccct gacgagcatc 1860

acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg 1920

cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat 1980

acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt 2040

atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc 2100

agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg 2160

acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2220

gtgctacaga gttcttgaag tggtggccta actacggcta cactagaaga acagtatttg 2280

gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340

gcaaacaaac caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca 2400

gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga 2460

actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520

gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580

acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640

agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat 2700

cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct 2760

gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc 2820

gctcgatgcg atgtttcgct tggtggtcga atgggcaggt agccggatca agcgtatgca 2880

gccgccgcat tgcatcagcc atgatggata ctttctcggc aggagcaagg tgagatgaca 2940

ggagatcctg ccccggcact tcgcccaata gcagccagtc ccttcccgct tcagtgacaa 3000

cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060

cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accgggcgcc 3120

cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt 3180

catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttgtt 3240

caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300

agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag 3360

agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420

actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg 3480

gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac 3534

<210> 9
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the TV-GHRH plasmid.

<400> 9
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60

accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120

gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180

tggcgctcta aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca 240

aatatggcga cggttcctca cccgtcgcca tatttgggtg tccgccctcg gccggggccg 300

cattcctggg ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg 360

cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420

ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480

ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct ccccacctcc 540

ccctttgacc ctcaggatgc ggcggtatgt agatgccatc ttcaccaaca gctaccggaa 600

ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg 660

agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720

ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag 780

tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840

tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa 900

cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960

tcactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020

tgggattcca ggcatgcatg accaggctca gctaattttt gtttttttgg tagagacggg 1080

gtttcaccat attggccagg ctggtctcca actcctaatc tcaggtgatc tacccacctt 1140

ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttccct gtccttctga 1200

ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260

cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320

ctcagtagat gcctgttgaa ttcgataccg tcgacctcga ggggggggccc ggtaccagct 1380

tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc 1440

ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt 1500

gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc 1560

ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 1620

ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680

cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca 1740

cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800

accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccccct gacgagcatc 1860

acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg 1920

cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat 1980

acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt 2040

atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc 2100

agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg 2160

acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2220

gtgctacaga gttcttgaag tggtggccta actacggcta cactagaaga acagtatttg 2280

gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340

gcaaacaaac caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca 2400

gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga 2460

actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520

gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580

acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640

agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat 2700

cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct 2760

gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc 2820

gctcgatgcg atgtttcgct tggtggtcga atgggcaggt agccggatca agcgtatgca 2880

gccgccgcat tgcatcagcc atgatggata ctttctcggc aggagcaagg tgagatgaca 2940

ggagatcctg ccccggcact tcgcccaata gcagccagtc ccttcccgct tcagtgacaa 3000

cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060

cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accgggcgcc 3120

cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt 3180

catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttgtt 3240

caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300

agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag 3360

agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420

actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg 3480

gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac 3534

<210> 10
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the 15/27/28 GHRH plasmid.

<400> 10
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60

accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120

gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180

tggcgctcta aaaataactc ccgggagtta tttttagagc ggaggaatgg tggacaccca 240

aatatggcga cggttcctca cccgtcgcca tatttgggtg tccgccctcg gccggggccg 300

cattcctggg ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg 360

cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420

ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480

ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct ccccacctcc 540

ccctttgacc ctcaggatgc ggcggtatat cgatgccatc ttcaccaaca gctaccggaa 600

ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg 660

agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720

ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt gccactccag 780

tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840

tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt gggaagacaa 900

cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960

tcactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020

tgggattcca ggcatgcatg accaggctca gctaattttt gtttttttgg tagagacggg 1080

gtttcaccat attggccagg ctggtctcca actcctaatc tcaggtgatc tacccacctt 1140

ggcctcccaa attgctggga ttacaggcgt gaaccactgc tcccttccct gtccttctga 1200

ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260

cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320

ctcagtagat gcctgttgaa ttcgataccg tcgacctcga ggggggggccc ggtaccagct 1380

tttgttccct ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc 1440

ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt 1500

gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc 1560

ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 1620

ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680

cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca 1740

cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800

accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccccct gacgagcatc 1860

acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg 1920

cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat 1980

acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt 2040

atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa cccccgttc 2100

agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg 2160

acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2220

gtgctacaga gttcttgaag tggtggccta actacggcta cactagaaga acagtatttg 2280

gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340

gcaaacaaac caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca 2400

gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga 2460

actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520

gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580

acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640

agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat 2700

cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagcccct 2760

gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgctc 2820

gctcgatgcg atgtttcgct tggtggtcga atgggcaggt agccggatca agcgtatgca 2880

gccgccgcat tgcatcagcc atgatggata ctttctcggc aggagcaagg tgagatgaca 2940

ggagatcctg ccccggcact tcgcccaata gcagccagtc ccttcccgct tcagtgacaa 3000

cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060

cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accgggcgcc 3120

cctgcgctga cagccggaac acggcggcat cagagcagcc gattgtctgt tgtgcccagt 3180

catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttgtt 3240

caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300

agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag 3360

agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420

actgttggga agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg 3480

gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgac 3534

<210> 11
<211> 2710
<212> DNA
<213> artificial sequence

<220>

<223> Vector with a mouse codon optimized GHRH analog sequence

<400> 11

tgtaatacga ctcactatag ggcgaattgg agctccaccg cggtggcggc cgtccgccct 60

cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt 120

ttagagcggt gaggaaggtg ggcaggcagc aggtgttggc gctctaaaaa taactcccgg 180

gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcacccg 240

tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcggtgct 300

cccgcccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360

cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420

agctcaccta gctgccatgg tgctctgggt gctctttgtg atcctcatcc tcaccagcgg 480

cagccactgc agcctgcctc ccagccctcc cttcaggatg cagaggcacg tggacgccat 540

cttcaccacc aactacagga agctgctgag ccagctgtac gccaggaagg tgatccagga 600

catcatgaac aagcagggcg agaggatcca ggagcagagg gccaggctga gctgataagc 660

ttatcggggt ggcatccctg tgacccctcc ccagtgcctc tcctggccct ggaagttgcc 720

actccagtgc ccaccagcct tgtcctaata aaattaagtt gcatcatttt gtctgactag 780

gtgtcctttct ataatattat ggggtggagg ggggtggtat ggagcaaggg gcaagttggg 840

aagacaacct gtagggctcg agggggggcc cggtaccagc ttttgttccc tttagtgagg 900

gttaatttcg agcttggtct tccgcttcct cgctcactga ctcgctgcgc tcggtcgttc 960

ggctgcggcg agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag 1020

gggataacgc aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa 1080

aggccgcgtt gctggcgttt ttccataggc tccgcccccc tgacgagcat cacaaaaatc 1140

gacgctcaag tcagaggtgg cgaaacccga caggactata aagataccag gcgtttcccc 1200

ctggaagctc cctcgtgcgc tctcctgttc cgaccctgcc gcttaccgga tacctgtccg 1260

cctttctccc ttcgggaagc gtggcgcttt ctcatagctc acgctgtagg tatctcagtt 1320

cggtgtaggt cgttcgctcc aagctgggct gtgtgcacga acccccccgtt cagcccgacc 1380

gctgcgcctt atccggtaac tatcgtcttg agtccaaccc ggtaagacac gacttatcgc 1440

cactggcagc agccactggt aacaggatta gcagagcgag gtatgtaggc ggtgctacag 1500

agttcttgaa gtggtggcct aactacggct acactagaag aacagtattt ggtatctgcg 1560

ctctgctgaa gccagttacc ttcggaaaaa gagttggtag ctcttgatcc ggcaaacaaa 1620

ccaccgctgg tagcggtggt ttttttgttt gcaagcagca gattacgcgc agaaaaaaag 1680

gatctcaaga agatcctttg atcttttcta cggggctagc gcttagaaga actcatccag 1740

cagacggtag aatgcaatac gttgagagtc tggagctgca ataccataca gaaccaggaa 1800

acggtcagcc cattcaccac ccagttcctc tgcaatgtca cgggtagcca gtgcaatgtc 1860

ctggtaacgg tctgcaacac ccagacgacc acagtcaatg aaaccagaga aacgaccatt 1920

ctcaaccatg atgttcggca ggcatgcatc accatgagta actaccaggt cctcaccatc 1980

cggcatacga gctttcagac gtgcaaacag ttcagccggt gccagaccct gatgttcctc 2040

atccaggtca tcctggtcaa ccagacctgc ttccatacgg gtacgagcac gttcaatacg 2100

atgttttgcc tggtggtcaa acggacaggt agctgggtcc agggtgtgca gacgacgcat 2160

tgcatcagcc atgatagaaa ctttctctgc cggagccagg tgagaagaca gcaggtcctg 2220

acccggaact tcacccagca gcagccagtc acgaccagct tcagtaacta catccagaac 2280

tgcagcacac ggaacaccag tggttgccag ccaagacaga cgagctgctt catcctgcag 2340

ttcattcaga gcaccagaca ggtcagtttt aacaaacaga actggacgac cctgtgcaga 2400

cagacggaaa acagctgcat cagagcaacc aatggtctgc tgtgcccagt cataaccaaa 2460

cagacgttca acccaggctg ccggagaacc tgcatgcaga ccatcctgtt caatcatgcg 2520

aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc agatccttgg 2580

cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag agggcgcccc 2640

agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca actgttggga 2700

agggcgatcg 2710

<210> 12
<211> 2713
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a rat codon optimized GHRH analog sequence

<400> 12
tgtaatacga ctcactatag ggcgaattgg agctccaccg cggtggcggc cgtccgccct 60

cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt 120

ttagagcggt gaggaaggtg ggcaggcagc aggtgttggc gctctaaaaa taactcccgg 180

gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcacccg 240

tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcggtgct 300

cccgcccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360

cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420

agctcaccta gctgccatgg ccctgtgggt gttcttcgtg ctgctgaccc tgaccagcgg 480

aagccactgc agcctgcctc ccagccctcc cttcagggtg cgccggcacg ccgacgccat 540

cttcaccagc agctacagga ggatcctggg ccagctgtac gctaggaagc tcctgcacga 600

gatcatgaac aggcagcagg gcgagaggaa ccaggagcag aggagcaggt tcaactgata 660

agcttatcgg ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt 720

gccactccag tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac 780

taggtgtcct tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt 840

gggaagacaa cctgtagggc tcgaggggggg gcccggtacc agcttttgtt ccctttagtg 900

agggttaatt tcgagcttgg tcttccgctt cctcgctcac tgactcgctg cgctcggtcg 960

ttcggctgcg gcgagcggta tcagctcact caaaggcggt aatacggtta tccacagaat 1020

caggggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta 1080

aaaaggccgc gttgctggcg tttttccata ggctccgccc ccctgacgag catcacaaaa 1140

atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac caggcgtttc 1200

cccctggaag ctccctcgtg cgctctcctg ttccgaccct gccgcttacc ggatacctgt 1260

ccgcctttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt aggtatctca 1320

gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaaccccc gttcagcccg 1380

accgctgcgc cttatccggt aactatcgtc ttgagtccaa cccggtaaga cacgacttat 1440

cgccactggc agcagccact ggtaacagga ttagcagagc gaggtatgta ggcggtgcta 1500

cagagttctt gaagtggtgg cctaactacg gctacactag aagaacagta tttggtatct 1560

gcgctctgct gaagccagtt accttcggaa aaagagttgg tagctcttga tccggcaaac 1620

aaaccaccgc tggtagcggt ggtttttttg tttgcaagca gcagattacg cgcagaaaaa 1680

aaggatctca agaagatcct ttgatctttt ctacggggct agcgcttaga agaactcatc 1740

cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag 1800

gaaacggtca gcccattcac cacccagttc ctctgcaatg tcacgggtag ccagtgcaat 1860

gtcctggtaa cggtctgcaa cacccagacg accacagtca atgaaaccag agaaacgacc 1920

attctcaacc atgatgttcg gcaggcatgc atcaccatga gtaactacca ggtcctcacc 1980

atccggcata cgagctttca gacgtgcaaa cagttcagcc ggtgccagac cctgatgttc 2040

ctcatccagg tcatcctggt caaccagacc tgcttccata cgggtacgag cacgttcaat 2100

acgatgtttt gcctggtggt caaacggaca ggtagctggg tccagggtgt gcagacgacg 2160

cattgcatca gccatgatag aaactttctc tgccggagcc aggtgagaag acagcaggtc 2220

ctgacccgga acttcaccca gcagcagcca gtcacgacca gcttcagtaa ctacatccag 2280

aactgcagca cacggaacac cagtggttgc cagccaagac agacgagctg cttcatcctg 2340

cagttcattc agagcaccag acaggtcagt tttaacaaac agaactggac gaccctgtgc 2400

agacagacgg aaaacagctg catcagagca accaatggtc tgctgtgccc agtcataacc 2460

aaacagacgt tcaacccagg ctgccggaga acctgcatgc agaccatcct gttcaatcat 2520

gcgaaacgat cctcatcctg tctcttgatc agatcttgat cccctgcgcc atcagatcct 2580

tggcggcaag aaagccatcc agtttacttt gcagggcttc ccaaccttac cagagggcgc 2640

cccagctggc aattccggtt cgcttgctgt ccataaaacc gcccagtcta gcaactgttg 2700

ggaagggcga tcg 2713

<210> 13
<211> 2704
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a bovine codon optimized GHRH analog sequence

<400> 13
tgtaatacga ctcactatag ggcgaattgg agctccaccg cggtggcggc cgtccgccct 60

cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt 120

ttagagcggt gaggaaggtg ggcaggcagc aggtgttggc gctctaaaaa taactcccgg 180

gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcacccg 240

tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcggtgct 300

cccgcccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360

cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420

agctcaccta gctgccatgg tgctgtgggt gttcttcctg gtgaccctga ccctgagcag 480

cggctcccac ggctccctgc cctcccagcc tctgcgcatc cctcgctacg ccgacgccat 540

cttcaccaac agctaccgca aggtgctcgg ccagctcagc gcccgcaagc tcctgcagga 600

catcatgaac cggcagcagg gcgagcgcaa ccaggagcag ggagcctgat aagcttatcg 660

gggtggcatc cctgtgaccc ctccccagtg cctctcctgg ccctggaagt tgccactcca 720

gtgcccacca gccttgtcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc 780

ttctataata ttatggggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca 840

acctgtaggg ctcgaggggg ggcccggtac cagcttttgt tccctttagt gagggttaat 900

ttcgagcttg gtcttccgct tcctcgctca ctgactcgct gcgctcggtc gttcggctgc 960

ggcgagcggt atcagctcac tcaaaggcgg taatacggtt atccacagaa tcaggggata 1020

acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg 1080

cgttgctggc gtttttccat aggctccgcc cccctgacga gcatcacaaa aatcgacgct 1140

caagtcagag gtggcgaaac ccgacaggac tataaagata ccaggcgttt ccccctggaa 1200

gctccctcgt gcgctctcct gttccgaccc tgccgcttac cggatacctg tccgcctttc 1260

tcccttcggg aagcgtggcg ctttctcata gctcacgctg taggtatctc agttcggtgt 1320

aggtcgttcg ctccaagctg ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg 1380

ccttatccgg taactatcgt cttgagtcca acccggtaag acacgactta tcgccactgg 1440

cagcagccac tggtaacagg attagcagag cgaggtatgt aggcggtgct acagagttct 1500

tgaagtggtg gcctaactac ggctacacta gaagaacagt atttggtatc tgcgctctgc 1560

tgaagccagt taccttcgga aaaagagttg gtagctcttg atccggcaaa caaaccaccg 1620

ctggtagcgg tggttttttt gtttgcaagc agcagattac gcgcagaaaa aaaggatctc 1680

aagaagatcc tttgatcttt tctacggggc tagcgcttag aagaactcat ccagcagacg 1740

gtagaatgca atacgttgag agtctggagc tgcaatacca tacagaacca ggaaacggtc 1800

agcccattca ccacccagtt cctctgcaat gtcacgggta gccagtgcaa tgtcctggta 1860

acggtctgca acacccagac gaccacagtc aatgaaacca gagaaacgac cattctcaac 1920

catgatgttc ggcaggcatg catcaccatg agtaactacc aggtcctcac catccggcat 1980

acgagctttc agacgtgcaa acagttcagc cggtgccaga ccctgatgtt cctcatccag 2040

gtcatcctgg tcaaccagac ctgcttccat acgggtacga gcacgttcaa tacgatgttt 2100

tgcctggtgg tcaaacggac aggtagctgg gtccagggtg tgcagacgac gcattgcatc 2160

agccatgata gaaactttct ctgccggagc caggtgagaa gacagcaggt cctgacccgg 2220

aacttcaccc agcagcagcc agtcacgacc agcttcagta actacatcca gaactgcagc 2280

acacggaaca ccagtggttg ccagccaaga cagacgagct gcttcatcct gcagttcatt 2340

cagagcacca gacaggtcag ttttaacaaa cagaactgga cgaccctgtg cagacagacg 2400

gaaaacagct gcatcagagc aaccaatggt ctgctgtgcc cagtcataac caaacagacg 2460

ttcaacccag gctgccggag aacctgcatg cagaccatcc tgttcaatca tgcgaaacga 2520

tcctcatcct gtctcttgat cagatcttga tcccctgcgc catcagatcc ttggcggcaa 2580

gaaagccatc cagtttactt tgcagggctt cccaacctta ccagagggcg ccccagctgg 2640

caattccggt tcgcttgctg tccataaaac cgcccagtct agcaactgtt gggaagggcg 2700

atcg 2704

<210> 14
<211> 2704
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a ovine codon optimized GHRH analog sequence

<400> 14
tgtaatacga ctcactatag ggcgaattgg agctccaccg cggtggcggc cgtccgccct 60

cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt 120

ttagagcggt gaggaaggtg ggcaggcagc aggtgttggc gctctaaaaa taactcccgg 180

gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcacccg 240

tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcggtgct 300

cccgcccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360

cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420

agctcaccta gctgccatgg tgctgtgggt gttcttcctg gtgaccctga ccctgagcag 480

cggaagccac ggcagcctgc ccagccagcc cctgaggatc cctaggtacg ccgacgccat 540

cttcaccaac agctacagga agatcctggg ccagctgagc gctaggaagc tcctgcagga 600

catcatgaac aggcagcagg gcgagaggaa ccaggagcag ggcgcctgat aagcttatcg 660

gggtggcatc cctgtgaccc ctccccagtg cctctcctgg ccctggaagt tgccactcca 720

gtgcccacca gccttgtcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc 780

ttctataata ttatggggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca 840

acctgtaggg ctcgaggggg ggcccggtac cagcttttgt tcccttttagt gagggttaat 900

ttcgagcttg gtcttccgct tcctcgctca ctgactcgct gcgctcggtc gttcggctgc 960

ggcgagcggt atcagctcac tcaaaggcgg taatacggtt atccacagaa tcaggggata 1020

acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg 1080

cgttgctggc gtttttccat aggctccgcc cccctgacga gcatcacaaa aatcgacgct 1140

caagtcagag gtggcgaaac ccgacaggac tataaagata ccaggcgttt cccccctggaa 1200

gctccctcgt gcgctctcct gttccgaccc tgccgcttac cggatacctg tccgcctttc 1260

tcccttcggg aagcgtggcg ctttctcata gctcacgctg taggtatctc agttcggtgt 1320

aggtcgttcg ctccaagctg ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg 1380

ccttatccgg taactatcgt cttgagtcca acccggtaag acacgactta tcgccactgg 1440

cagcagccac tggtaacagg attagcagag cgaggtatgt aggcggtgct acagagttct 1500

tgaagtggtg gcctaactac ggctacacta gaagaacagt atttggtatc tgcgctctgc 1560

tgaagccagt taccttcgga aaaagagttg gtagctcttg atccggcaaa caaaccaccg 1620

ctggtagcgg tggtttttt gtttgcaagc agcagattac gcgcagaaaa aaaggatctc 1680

aagaagatcc tttgatcttt tctacggggc tagcgcttag aagaactcat ccagcagacg 1740

gtagaatgca atacgttgag agtctggagc tgcaatacca tacagaacca ggaaacggtc 1800

agcccattca ccacccagtt cctctgcaat gtcacgggta gccagtgcaa tgtcctggta 1860

acggtctgca acacccagac gaccacagtc aatgaaacca gagaaacgac cattctcaac 1920

catgatgttc ggcaggcatg catcaccatg agtaactacc aggtcctcac catccggcat 1980

acgagctttc agacgtgcaa acagttcagc cggtgccaga ccctgatgtt cctcatccag 2040

gtcatcctgg tcaaccagac ctgcttccat acgggtacga gcacgttcaa tacgatgttt 2100

tgcctggtgg tcaaacggac aggtagctgg gtccagggtg tgcagacgac gcattgcatc 2160

agccatgata gaaactttct ctgccggagc caggtgagaa gacagcaggt cctgacccgg 2220

aacttcaccc agcagcagcc agtcacgacc agcttcagta actacatcca gaactgcagc 2280

acacggaaca ccagtggttg ccagccaaga cagacgagct gcttcatcct gcagttcatt 2340

cagagcacca gacaggtcag ttttaacaaa cagaactgga cgaccctgtg cagacagacg 2400

gaaaacagct gcatcagagc aaccaatggt ctgctgtgcc cagtcataac caaacagacg 2460

ttcaacccag gctgccggag aacctgcatg cagaccatcc tgttcaatca tgcgaaacga 2520

tcctcatcct gtctcttgat cagatcttga tcccctgcgc catcagatcc ttggcggcaa 2580

gaaagccatc cagtttactt tgcagggctt cccaacctta ccagagggcg ccccagctgg 2640

caattccggt tcgcttgctg tccataaaac cgcccagtct agcaactgtt gggaagggcg 2700

atcg 2704

<210> 15
<211> 2713
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a chicken codon optimized GHRH analog sequence

<400> 15
tgtaatacga ctcactatag ggcgaattgg agctccaccg cggtggcggc cgtccgccct 60

cggcaccatc ctcacgacac ccaaatatgg cgacgggtga ggaatggtgg ggagttattt 120

ttagagcggt gaggaaggtg ggcaggcagc aggtgttggc gctctaaaaa taactcccgg 180

gagttatttt tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcacccg 240

tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcggtgct 300

cccgcccgcc tcgataaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360

cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420

agctcaccta gctgccatgg ccctgtgggt gttctttgtg ctgctgaccc tgacctccgg 480

aagccactgc agcctgccac ccagcccacc cttccgcgtc aggcgccacg ccgacggcat 540

cttcagcaag gcctaccgca agctcctggg ccagctgagc gcacgcaact acctgcacag 600

cctgatggcc aagcgcgtgg gcagcggact gggagacgag gccgagcccc tgagctgata 660

agcttatcgg ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaagtt 720

gccactccag tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac 780

taggtgtcct tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagtt 840

gggaagacaa cctgtagggc tcgaggggggg gcccggtacc agcttttgtt ccctttagtg 900

agggttaatt tcgagcttgg tcttccgctt cctcgctcac tgactcgctg cgctcggtcg 960

ttcggctgcg gcgagcggta tcagctcact caaaggcggt aatacggtta tccacagaat 1020

caggggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta 1080

aaaaggccgc gttgctggcg tttttccata ggctccgccc ccctgacgag catcacaaaa 1140

atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac caggcgtttc 1200

cccctggaag ctccctcgtg cgctctcctg ttccgaccct gccgcttacc ggatacctgt 1260

ccgcctttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt aggtatctca 1320

gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaaccccc gttcagcccg 1380

accgctgcgc cttatccggt aactatcgtc ttgagtccaa cccggtaaga cacgacttat 1440

cgccactggc agcagccact ggtaacagga ttagcagagc gaggtatgta ggcggtgcta 1500

cagagttctt gaagtggtgg cctaactacg gctacactag aagaacagta tttggtatct 1560

gcgctctgct gaagccagtt accttcggaa aaagagttgg tagctcttga tccggcaaac 1620

aaaccaccgc tggtagcggt ggtttttttg tttgcaagca gcagattacg cgcagaaaaa 1680

aaggatctca agaagatcct ttgatctttt ctacggggct agcgcttaga agaactcatc 1740

cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag 1800

gaaacggtca gcccattcac cacccagttc ctctgcaatg tcacgggtag ccagtgcaat 1860

gtcctggtaa cggtctgcaa cacccagacg accacagtca atgaaaccag agaaacgacc 1920

attctcaacc atgatgttcg gcaggcatgc atcaccatga gtaactacca ggtcctcacc 1980

atccggcata cgagctttca gacgtgcaaa cagttcagcc ggtgccagac cctgatgttc 2040

ctcatccagg tcatcctggt caaccagacc tgcttccata cgggtacgag cacgttcaat 2100

acgatgtttt gcctggtggt caaacggaca ggtagctggg tccagggtgt gcagacgacg 2160

cattgcatca gccatgatag aaactttctc tgccggagcc aggtgagaag acagcaggtc 2220

ctgacccgga acttcaccca gcagcagcca gtcacgacca gcttcagtaa ctacatccag 2280

aactgcagca cacggaacac cagtggttgc cagccaagac agacgagctg cttcatcctg 2340

cagttcattc agagcaccag acaggtcagt tttaacaaac agaactggac gaccctgtgc 2400

agacagacgg aaaacagctg catcagagca accaatggtc tgctgtgccc agtcataacc 2460

aaacagacgt tcaacccagg ctgccggaga acctgcatgc agaccatcct gttcaatcat 2520

gcgaaacgat cctcatcctg tctcttgatc agatcttgat cccctgcgcc atcagatcct 2580

tggcggcaag aaagccatcc agtttacttt gcagggcttc ccaaccttac cagagggcgc 2640

cccagctggc aattccggtt cgcttgctgt ccataaaacc gcccagtcta gcaactgttg 2700

ggaagggcga tcg 2713

<210> 16
<211> 382
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter c1-26.

<400> 16
ggcggccgag ggcggcgggg caggcagcag gtgttggcac cattcctcac cgctctaaaa 60

ataactcccg tgaggaatgg tgccgtcgcc atatttgggt gtcgacaccc aaatatggcg 120

acgggtgagg aatggtgggc aggcagcagg tgttgggaca cccaaatatg gcgacggcca 180

acacctgctg cctgccggga gttatttta gagcggggag ttatttttag agcggtgagg 240

aatggtggac acccaaatat ggcgacggcc ggggccgcat tcctgggggc cgggcggtgc 300

tcccgcccgc ctcgataaaa ggctccgggg ccggcggcgg cccacgagct acccggagga 360

gcgggaggcg ccaagctcta ga 382

<210> 17
<211> 218
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter sequence for c2-26.

<400> 17
cggccgtcgc catatttggg tgtccgctct aaaaataact cccgacaccc aaatatggcg 60

acggggcagg cagcaggtgt tgggacaccc aaatatggcg acggccgggg ccgcattcct 120

ggggggccggg cggtgctccc gcccgcctcg ataaaaggct ccggggccgg cggcggccca 180

cgagctaccc ggaggagcgg gaggcgccaa gctctaga 218

<210> 18
<211> 230
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic sequence for c2-27.

<400> 18
cggccgtcgc catatttggg tgtcggcagg cagcaggtgt tggcaccatt cctcacccgt 60

cgccatattt gggtgtcggc aggcagcagt gttgggacac ccaaatatgg cgacggccgg 120

ggccgcattc ctgggggccg ggcggtgctc ccgcccgcct cgataaaagg ctccggggcc 180

ggcggcggcc cacgagctac ccggaggagc gggaggcgcc aagctctaga 230

<210> 19
<211> 231
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter for c5-5.

<400> 19
cggccgtccg ccctcgggac acccaaatat ggcgacgggt gaggaatggt gcaccattcc 60

tcacgggagt tatttttaga gcggtgagga atggtggaca cccaaatatg gcgacggccg 120

gggccgcatt cctgggggcc gggcggtgct cccgcccgcc tcgataaaag gctccggggc 180

cggcggcggc ccacgagcta cccggaggag cgggaggcgc caagctctag a 231

<210> 20
<211> 255
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promter for c6-5.

<400> 20
cggccgtcgc catatttggg tgtcccaaca cctgctgcct gccccgtcgc catatttggt 60

gtcggcaggc agcaggtgtt ggccaacacc tgctgcctgc cgggagttat ttttagagcg 120

gacacccaaa tatggcgacg gccggggccg cattcctggg ggccgggcgg tgctcccgcc 180

cgcctcgata aaaggctccg gggccggcgg cggcccacga gctacccgga ggagcgggag 240

gcgccaagct ctaga 255

<210> 21
<211> 283
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter for c6-16.

<400> 21
cggccgtcgc catatttggg tgtccgctct aaaaataact cccccaacac ctgctgcctg 60

ccccgtcgcc atatttgggt gtcggcaggc agcaggtgtt ggccaacacc tgctgcctgc 120

cccaacacct gctgcctgcc ccgtcgccat atttggtgtc cgccctcggc cggggccgca 180

ttcctggggg ccgggcggtg ctcccgcccg cctcgataaa aggctccggg gccggcggcg 240

gcccacgagc tacccggagg agcgggaggc gccaagctct aga 283

<210> 22
<211> 263
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter for c6-39.

<400> 22
cggccgtccg ccctcggggg agttattttt agagcgccaa cacctgctgc ctgccccgtc 60

gccatatttg ggtgtcggca ggcagcaggt gttgggggag ttatttttag agcgccgtcg 120

ccatatttgg gtgtcccgag ggcggacggc cggggccgca ttcctggggg ccgggcggtg 180

ctcccgcccg cctcgataaa aggctccggg gccggcggcg gcccacgagc tacccggagg 240

agcgggaggc gccaagctct aga 263